Claims

We claim:

1. A method for synchronizing scan opportunities in a mobile communications system comprising the steps of:

sending time slots between a mobile subscriber and an associated base station wherein the mobile subscriber has a corresponding scan group;

counting the number of time slots sent between the mobile subscriber and the associated base station; and

determining whether it is a scan opportunity based upon the count, the scan group of the mobile subscriber, a scan rate, and a scan opportunity divisor and if it is a scan opportunity, then performing a scan of a neighboring base station.

2. The method of claim 1 wherein the count is associated with a number of frames where one frame is a plurality of time slots.

3. The method of claim1 where the step of performing a scan is performed by the mobile subscriber.

4. The method of claim 1 wherein the scan rate is a number of scan groups in the mobile communications system.

5. The method of claim 1 where the scan group is based upon the characteristics of the mobile subscribers of the mobile communications system.

6. The method of claim 1 where the step of determining further comprises evaluating the following equation for the scan opportunity

$$\left|Count - Scan\ Group\right| \% \frac{Scan\ Variable}{Scan\ Opportunity\ Divisor}.$$

7. The method of claim 1 wherein the scan group of the mobile subscriber is based upon a subscriber access code.

8. The method of claim 1 wherein the scan group is a grouping of mobile subscribers requiring a similar scan time.

9. The method of claim 8 wherein the grouping is based upon characteristics of the mobile subscribers including hardware and software of the mobile subscriber.

10. A system for synchronizing scan opportunities in a mobile communications system comprising:

an associated base station configured to keep a first count of a number of time slots sent between the base station and a mobile subscriber;

the mobile subscriber configured to receive communications from the associated base station and configured to keep a second count of a number of time slots sent between the base station and the mobile subscriber;

a processor for determining a scan opportunity based upon the first count and the second count, a scan group of the mobile subscriber, a scan rate, and a scan opportunity divisor, wherein

the mobile subscriber scans to a neighboring base station on a scan opportunity.

11. The system of claim 10 wherein the first count and the second count are associated with a number of frames where one frame is a plurality of time slots.

12. The system of claim 10 where the processor evaluates the following equation for the scan opportunity $\left|Count - Scan\ Group\right| \% \frac{Scan\ Variable}{Scan\ Opportunity\ Divisor}$.

13. The system of claim 10 wherein the scan group of the mobile subscriber is based upon a subscriber access code.

14. The system claim 10 wherein the scan group is a grouping of mobile subscribers requiring a similar scan time.

15. The system of claim 14 wherein the grouping is based upon characteristics of the mobile subscribers including hardware and software of the mobile subscriber.

16. A system for synchronizing scan opportunities in a mobile communications system comprising:

means for sending time slots between a mobile subscriber and an associated base station wherein the mobile subscriber has a corresponding scan group;

means for counting the number of time slots sent between the mobile subscriber and the associated base station; and

means for determining whether it is a scan opportunity based upon the count of frames, the scan group of the mobile subscriber, a scan rate, and a scan opportunity divisor.

17. The system of claim 16 wherein the count is associated with a number of frames where one frame is a plurality of time slots.

18. The system of claim 16 where the means for determining evaluates the following equation for the scan opportunity

$$\left|Count - Scan\ Group\right| \% \frac{Scan\ Variable}{Scan\ Opportunity\ Divisor}.$$

19. The system of claim 16 wherein the scan group of the mobile subscriber is based upon a subscriber access code.

20. The system of claim 16 wherein the scan group is a grouping of mobile subscribers requiring a similar scan time.